EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 2-29

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-10-060	11/30/2010 To 07/31/2013 Base Option Period Number 2	Field Demo of Water Tech

Contractor: COMPUTER SCIENCES CORPORATION

Specify Section and paragraph of Contract SOW: 2.2

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [ ] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 08/01/2012 To 07/31/2013

Comments:
This action establishes WA 2-29 in OP 2 and requests a work plan, staffing plan, and budget for the attached PWS. The Government estimates 1866 direct labor hours will be needed to support the requirement.

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee:	LOE:
11/30/2010 To 07/31/2013		0
This Action:		1,866
Total:		1,866

Work Plan / Cost Estimate Approvals

	Cost/Fee:	LOE:
Contractor WP Dated:		
Cumulative Approved:		

Work Assignment Manager Name: Robert Janke (Signature) (Date)	Branch/Mail Code: Phone Number: 513-569-7160 FAX Number:
Project Officer Name: Nancy Muzzy (Signature) (Date)	Branch/Mail Code: Phone Number: 513-569-7864 FAX Number:
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:
Contracting Official Name: Cathy Basu (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2042 FAX Number:

WORK ASSIGNMENT
PERFORMANCE WORK STATEMENT

Contract No. EP-C-10-060
Work Assignment: 2-29
WAM: Name: ROBERT JANKE
Laboratory/Center, Division, Branch: ORD/NHSRC/WIPD
Phone: (513) 569-7160
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LOE: 1866 hours

Period of Performance: August 1, 2012 to July 31, 2013

Title: Field Demonstration of a Real-Time Water Infrastructure Monitoring and Data Fusion Technology to Improve Operations and Enhance Security of Water Systems

PWS Sections: Programmatic support needs related to our national security, 2.2. Tool and Guidance Development, Dissemination and/or Training

I. PURPOSE:

The purpose of this work assignment is to implement a pilot project to evaluate real-time modeling by collecting the necessary data and information to quantitatively determine the value of real-time modeling. The primary outcome from this field demonstration will be a report documenting the benefits and value of real-time modeling applications. Through this pilot demonstration, real-time modeling practices and processes will be identified and shared with other water utilities in the region as well as across the nation in order to help improve the security, efficiency, and management of water distribution systems. The findings from this pilot demonstration will be used to establish new markets in real-time monitoring and data fusion technologies by leveraging and streamlining existing and future water utility investments in SCADA and infrastructure modeling.

Given the generic object oriented framework for integrating with SCADA systems being developed and field tested in this pilot project, it is envisioned that the software can be leveraged by NRMRL in other problem domains, for example, addressing aging infrastructure and combined sewer overflow control.

To achieve the goals outlined in this work assignment, the contractor shall work closely with the EPA Project WAM and a partnering water utility (Northern Kentucky Water District (NKWD)) to implement the tasks described in the detailed performance work statement (PWS) in order to

collect the necessary data and information to assist EPA in evaluating the benefits and value of real-time modeling for drinking water distribution systems. The intended audience for this project is the partnering water utility (NKWD) and the wider water utility community.

This project supports programmatic support needs related to our national all hazards homeland security responsibilities by building on an established collaboration between the water community, namely NKWD, and the National Homeland Security Research Center (NHSRC) to develop tools and methodologies that not only make water systems safer but also at less cost to operate while improving operations and water quality.

The EPA team implementing this project is comprised of individuals from the Office of Research and Development's NHSRC and National Risk Management Research Laboratory (NRMRL) and the Office of Water, Water Security Division (WSD). NKWD include management, engineering, and operations personnel. This project leverages ongoing real-time modeling research being conducted by the NHSRC, Water Infrastructure Protection Division (WIPD) and also includes leveraged support from Department of Homeland Security (DHS) through funding the National Institute of Hometown Security (NIHS) project titled, "Studying Distribution System Hydraulics and Flow Dynamics to Improve Water Utility Operational Decision Making." The NIHS project is helping to fund a conductivity-based tracer study at NKWD which is planned for the Autumn of 2012.

This work assignment supports the mission of the NHSRC as described in the Research Action Plan for Homeland Security, which relates resources, activities, outputs, audience, short- and long- term outcomes to the NHSRC pillars of Prevention, Detection, Response, and Recovery. Additionally, this work assignment contributes to the commitments made in EPA's *Strategic Plan: 2011 to 2015* and EPA's *Homeland Security Strategy (2004)*. Under EPA's *Strategic Plan*, reference is made to Goal 2 (Clean and Safe Water), Objective 2.1 (Protecting Human Health), Sub-objective 2.1.1 (Water Safe to Drink), and to the Cross-Goal on homeland security. Under EPA's *Homeland Security Strategy*, reference is made to Objective 1 (Critical Infrastructure Protection).

In support of these requirements, this contract supports the nation's drinking water infrastructure, collectively known as the Water Sector, in being informed, coordinated, and prepared to prevent, detect, respond to, and recover from terrorist attack and other intentional acts, natural disasters, and other hazards (referred to as the "all hazards' approach), which may also occur, including the needs and challenges posed by natural disasters, catastrophic events, adaptation and impacts of climate change, floods, earthquakes, pandemic illness, and any other events which impact the safety and availability of our water supply.

II. BACKGROUND:

The NHSRC has developed an object-oriented software library called EPANET-RTX (EPANET "Real-Time eXtension"), which comprises the core data connectivity, data cleanup, and modeling components of a monitoring and data fusion system. EPANET-RTX (RTX) provides the tool to fuse operational data from a SCADA system with an infrastructure model to improve operations and enhance security in a more sustainable and productive manner. A prototype version of RTX is currently being piloted with the NKWD near Cincinnati, OH. This project involves the enhancement of RTX software tool to demonstrate and prove to the water community that real-time modeling can provide tangible and substantive benefits through reduced operational costs and improved management and operations. This project is a pilot project to evaluate real-time modeling by collecting the necessary data and information to quantitatively determine the value of real-time modeling.

This project will field test a real-time water distribution system modeling application at the NKWD to demonstrate improved management, operations, and water quality. Water utility organizations have invested heavily in data and information infrastructures (Supervisory Control and Data Acquisition (SCADA) systems and Geographic Information Systems (GIS)). Much of the data from these systems is stored and never actively used. These investments, however, can be leveraged to support a wide scope of utility decision making which can lead to improved infrastructure management. Leak detection, water quality (e.g., better management of disinfectant), and ultimately a higher level of public health protection are believed to be achievable with the implementation of real-time modeling.

The fusion of operational (SCADA) data with infrastructure-aware predictive models can yield numerous practical benefits and enhance the ability to simply and accurately forecast distribution system hydraulics and water quality in real-time. Operators will be able to routinely engage in situational response training and conduct operational analyses to achieve optimization goals related to pressure, leakage, energy, and water quality management – just as a pilot uses a flight simulator. Engineers will now be able to apply their infrastructure knowledge to these same tasks in a collaborative fashion with the operators, while knowing their infrastructure models are automatically updated through a continuous, real-time interpretation of operational data. Periodic reports showing trends in unaccounted for water, energy usage, and water quality can be produced and used for past and future asset management decisions.

III. QA REQUIREMENTS:

Tasks 1 through 4 in this work assignment require the use of primary and/or secondary data. Consistent with the Agency's quality assurance (QA) requirements, the contractor must prepare a complete Project Specific Quality Assurance Project Plan (PQAPP) to assure the quality of the secondary data used under this work assignment, and to supplement the approved Quality Management Plan (QMP) of the contract. Work on these tasks cannot proceed until the contractor receives notification of PQAPP approval from the PO via e-mail. The project specific

quality assurance requirements must be addressed in the work plan and monthly progress reports as specified under Task 0, below.

IV. DETAILED TASK DESCRIPTION:

All direction under this work assignment will be provided as written technical direction from the Work Assignment Manager, as appropriate. If provided first as verbal technical direction to the contractor, it will be confirmed in writing within 5 calendar days, with a copy to the Project Officer and the Contracting Officer, and is subject to the limitations of the technical direction contract clause. Each initial deliverable shall be provided to the EPA Work Assignment Manager (WAM) and EPA Project Officer (PO) in draft form for review and comment. The contractor shall incorporate WAM/Task Manager review comments into revisions of the drafts. All drafts and final reports shall be approved by the WAM.

The contractor shall perform the following tasks, numbered 0 through 4.

Task 0: Develop work plan, progress evaluations, PQAPP, and monthly progress reports. The contractor shall develop a work plan that describes how each task will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. If a subcontractor(s) is proposed and subcontractors are outside the metropolitan DC area, the contractor shall include information on plans to manage work and contract costs. The work plan shall also provide an analysis of the existing and projected constraints, and the feasibility of accomplishing the project's purpose.

In addition, the contractor shall prepare a project specific quality assurance plan (PQAPP) (noted above) and ensure the quality of secondary data used to complete these tasks. The work plan shall explain when the PQAPP will be submitted based on the specific data requirements of the WA. Work on Tasks 1-4 cannot proceed until the contractor receives notification of the new PQAPP approval from the PO via e-mail. This task also includes monthly progress and financial reports. The monthly progress report shall indicate, in a separate QA section, whether significant QA issues have been identified and how they are being resolved. Monthly financial reports must include a table with the invoice LOE and costs` broken out by the tasks in this WA.

In addition, in each monthly progress report, the contractor shall, at the introduction to the discussion of this work assignment, discuss actual progress toward achieving the purpose of this work assignment, including problems encountered, issues that may need to be resolved, and anticipated timing for completing the goals of the work assignment. The contractor shall provide an overview of contract projects, striving to implement efficiencies in performance when complimentary requirements are issued. The contractor shall assure that duplication of effort relative to other ongoing work assignments under this contract is not occurring

Deliverables: Work plan, PQAPP and monthly progress and financial reports.

Task 1: Analyze and document the value of real-time network modeling. A real-time model is believed to be able to bring benefits to a water utility, however, benefits hinge on being able to provide adequate real-time model predictions. This task will document the ability of a real-time model for NKWD to make accurate hydraulic and water quality predictions using the EPANET-RTX software and the NKWD model. It will also identify by working with EPA and NKWD utility personnel how real-time modeling can be made to be most beneficial and provide greater value.

a. Using the EPANET-RTX-based NKWD network distribution system model, the contractor shall document accuracy of real-time hydraulic model predictions through comparison with SCADA flow, pressure, and tank level measurements over a historical time frame of at least 6 months. The contractor shall document short-term hydraulic forecasting accuracy over the same time frame and using the same metrics, by comparing real-time 24 hour forecasts with eventual realized system behavior, and documenting error statistics as a function of forecast distance.
b. The contractor shall document accuracy of real-time water quality model predictions through comparison with available tracer data. For instance, real-time model predictions of conductivity pulse signatures could be conducted using the real-time predicted hydraulics. Statistical summaries of errors could be used to indicate the accuracy of real-time models for network water quality predictions.
c. Working with EPA and NKWD personnel the contractor will identify key utility goals for improving workflows and operational practices which could be met using real-time modeling applications and instruments.

Task 2: Develop and implement utility applications for using real-time network modeling. This task implements a formal process to develop and apply real-time modeling applications at NKWD. The end point of this task is new and/or revised utility workflows, corresponding to a selected set of applications, which will be implemented at NKWD by utility personnel.

a. Working with EPA and NKWD personnel, the contractor shall develop and present user experience-based applications which are built off the EPANET-RTX software libraries. These EPANET-RTX-based applications shall include associated new and/or revised workflows for NKWD water utility personnel to implement. These EPANET-RTX-based applications will be based on information and data that have been gathered from utility personnel, what is available in terms of real-time modeling and SCADA data integration, and estimates of potential benefits compared to current workflows and operational practices.
b. Working with EPA and NKWD personnel, the contractor shall collect utility feedback on the EPANET-RTX-based applications presented, iterate on the applications based on EPA and utility feedback, and help develop a path-forward that will move NKWD to a set of new workflows and operational practices based on real-time modeling technology.

c. Contractor shall build and help deploy EPANET-RTX-based applications needed to support the implementation of new real-time modeling-based workflows as well as any revised workflows or operational practices.
d. Contractor shall develop a draft workflow and utility usage agreement involving all affected parties and their management at NKWD. The agreement will describe the new and revised workflows and set the terms for the implementation of new real-time modeling applications, instruments, and workflows. The draft agreement shall include a description of each new workflow to be implemented. Existing workflows that are affected shall also be described.
e. Contractor shall develop a training program and assist EPA in the training of NKWD personnel in the new and revised workflows and use of real-time modeling-based applications and instruments.

Task 3: Develop and implement plan to evaluate real-time modeling applications and new and revised workflows and record benefits of real-time network modeling. This work task is the quantitative and qualitative assessment of real-time modeling-based applications and workflows at NKWD.

a. The contractor shall develop a draft plan for evaluating real-time modeling applications and new and revised NKWD utility workflows in order to record the benefits and determine the value of real-time network modeling. The draft plan shall outline an approach for collecting data on key metrics identified and determined to likely provide real-time modeling benefits and that can be used to enable the assessment of the value of real-time modeling.
b. The contractor shall collect the key real-time modeling performance data. Data will be collected, to the extent possible, using automated recording of instrument performance and usage, as well as personnel interviews.
c. The contractor shall evaluate the collected real-time modeling performance data to determine quantitatively and qualitatively the benefits and value of real-time modeling at NKWD.

Task 4: Contractor shall develop a draft report outlining the findings from implementing real-time modeling applications, instruments, and supported workflows at NKWD. The draft report will focus on tracking identified metrics that relate to key utility goals, and how they were affected through the new and/or revised workflows.

V. SCHEDULE/DELIVERABLES

Below are the identified tasks and products with the anticipated schedule duration for each task. The schedule for completing this scope of work is anticipated to be one year. This anticipated schedule is primarily dependent on the interactions with NKWD to complete the tasks.

Task 0: Develop work plan, progress evaluations, and monthly progress reports. The contractor shall develop a work plan that describes how each task will be carried out and

includes a date when the PQAPP will be submitted.
Deliverable: Work plan, draft PQAPP, final PQAPP, monthly progress and cost reporting.
Schedule duration: Months 0-2.

Task 1: Analyze and document the value of real-time network modeling. A real-time model is believed to be able to bring benefits to a water utility, however, benefits hinge on being able to provide adequate real-time model predictions. This task will document the ability of a real-time model for NKWD to make accurate hydraulic and water quality predictions using the EPANET-RTX software and the NKWD model. It will also identify, by working with EPA and NKWD utility personnel, how real-time modeling can be made to be most beneficial and provide greater value. Schedule duration: Months 2-5.

Deliverable: Report that documents completion of Task 1 items (a) through (c).

Task 2: Develop and implement utility applications for using real-time network modeling. This task implements a formal process to develop and apply real-time modeling applications at NKWD. The end point of this task is new and/or revised utility workflows, corresponding to a selected set of applications, which will be implemented at NKWD by utility personnel. Schedule duration: Months 3-8.

Deliverables: EPANET-RTX-based application(s) which support new and/or revised utility workflows. Report that documents completion of Task 2 items (a) through (e).

Task 3: Develop and implement plan to evaluate real-time modeling applications and new and revised workflows and record benefits of real-time network modeling. This work task is the quantitative and qualitative assessment of real-time modeling-based applications and workflows at NKWD. Schedule duration: Months 6-11.

Deliverable: Report that documents completion of Task 3 items (a) through (c).

Task 4: Contractor shall develop a draft report outlining the findings from implementing real-time modeling applications, instruments, and supported workflows at NKWD. The draft report will focus on tracking identified metrics that relate to key utility goals, and how they were affected through the new and/or revised workflows. Month 12.

Deliverable: Draft Report.

VI. REPORTING REQUIREMENTS

Project Specific PQAPP
Monthly Progress Reports, including a progress evaluation discussion
Financial Reports

VII. GREEN MEETINGS AND CONFERENCES

The contractor shall follow the provision of EPA prescription 1523.703-1, *Acquisition of environmentally preferable meeting and conference services (May 2007),* for the use of off-site commercial facilities for an EPA event, whether the event is a meeting, conference, training session, or other purpose. Environmental preferability is defined at FAR 2.101, and shall be used when soliciting quotes or offers for meeting/conference services on behalf of the Agency.

VIII. CONFERENCE/MEETING GUIDELINES AND LIMITATIONS

The contractor shall immediately alert the EPA WAM to any anticipated event under the work assignment which may result in incurring an estimated $23,000 or more cost, funded by EPA, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, AV and rental of venue costs, etc. The EPA WAM will then prepare internal approval paperwork for the event and will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

QUALITY ASSURANCE SURVEILLANCE PLAN
for the Water Security Division's
Technical, Analytical, and Regulatory Mission Support
Performance Work Statement

Quality Assurance Surveillance Plan

The requirements contained in this work assignment are considered performance-based, focusing on the Agency's desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency's performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards described below. The Contractor's performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the "Contractor Performance Evaluation" clause in the contract). The Work Assignment Manager shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in the contract, which will then be utilized by the Project Officer in preparing the overall evaluations submitted annually in response to the Contractor Performance Evaluation requirements in the contract.

General Management and Administration			
Performance Requirement	**Measurable Performance Standards**	**Surveillance Methods**	**Incentives/Disincentives**
Management and Communications: The Contractor shall maintain contact with the EPA CO, PO and WAM throughout the performance of the contract and shall immediately bring potential problems to the attention of the appropriate EPA WAM. In cases where issues have a direct impact on project schedules or cost, the contractor shall provide options for EPA's consideration on resolving or mitigating the impacts.	Any issues that impact project schedules or cost shall be brought to the attention of the appropriate EPA WAM within 3 business days of occurrence.	100% of active work assignments under the contract will be reviewed by the EPA WAM monthly (via monthly progress report) to identify unreported issues. The EPA WAM will report any issues to the EPA PO who will bring the issue(s) to the Contractor's attention through the CO.	**Unsatisfactory** rating under the category of Business Relations in the NIH Performance Evaluation System if two or more incidents occur during an applicable period of performance when the contractor does not meet the measurable performance standards for a given contract period.

General Management and Administration			
Performance Requirement	**Measurable Performance Standards**	**Surveillance Methods**	**Incentives/Disincentives**
Timeliness: Services and deliverables shall be in accordance with schedules stated in each work assignment or tasking document, unless amended or modified by an approved EPA action.	During any period of performance, 90% of all submitted deliverables shall be submitted no later than 5 business days past the due date.	100% of active work assignments under the contract will be reviewed by the EPA WAM monthly (via monthly progress report & milestones established for each deliverable) to compare actual delivery dates against those approved. The EPA WAM will report any issues to the EPA PO who will bring the issue(s) to the Contractor's attention through the CO.	**Unsatisfactory** rating under the category of Timeliness in the NIH Performance Evaluation System when the contractor does not meet the measurable performance standards during an applicable period of performance.

Cost Management and Control: The Contractor shall monitor, track and accurately report level of effort, labor cost, other direct cost and fee expenditures to EPA through progress reports and approved special reporting requirements. The Contractor shall assign appropriately leveled and skilled personnel to all tasks, practice and encourage time management, and ensure accurate and appropriate time keeping.	The contractor shall manage costs to the level of approved ceiling on the work assignment. The contractor shall notify the WAM/PO when 75% of the approved funding ceiling for the work assignment is reached.	The EPA PO will routinely meet with the Contractor's Project Manager to discuss the work progress and contract and individual work assignment expenditures. The EPA PO shall review the Contractor's monthly progress reports and request the WAMs verification of expenditures and technical progress before authorizing invoice payments.	**Unsatisfactory** rating under the category of Cost Control in the NIH Performance Evaluation System when the contractor does not meet the measurable performance standards during an applicable period of performance.

Technical Effort: The analyses or products developed by the contractor shall be factual and defensible and based on sound science and engineering. All data shall be collected from reputable sources and quality assurance measures shall be conducted in accordance with contract, agency requirements and any additional requirements outlined in individual work assignments or technical directives. Any work requiring the contractor to provide options or recommendations shall include the rationale used in selecting the option/recommendation and all other options and recommendations considered.	All analyses conducted for EPA by the Contractor must be factual and based on sound science and engineering. All analyses and products (initial and final drafts) shall conform in format and content to requirements specified by the WAM in written technical direction, and should meet the objectives stated in the work assignment. All initial draft documents shall be clearly written at a level appropriate to the targeted audience. All information shall be factual, technically sound, and accurate, with data sources identified. Draft versions of a document shall require no more than two editorial revisions.	EPA will review all analyses and work products conducted by the Contractor and will independently consider the merit. EPA may opt to peer review analyses to further validate merit. The EPA WAM/TM (Task Manager) will review initial drafts to assess technical accuracy and editorial quality. The WAM/TM will identify all inaccuracies and needed edits and corrections to the contractor in the initial review of draft documents.	**Unsatisfactory** rating under the category of **QUALITY OF PRODUCT OR SERVICE** in the NIH Performance Evaluation System when the contractor does not meet the measurable performance standards during an applicable period of performance, even after review input and follow up discussion by Agency personnel.

Socio-Economic Utilization: The Contractor shall assess all agency requirements outlined in work assignments for opportunities to fully utilize the knowledge and experience of its socio-economic team members. Work shall be allocated in a manner that ensures the Contractor's annual subcontracting goals are met.	The Contractor shall meet a standard of at least 80% of the dollar goals outlined in their subcontracting plan during each period of performance, unless Agency priorities prevent or preclude such tasking.	EPA will monitor the contractor's utilization of socio-economic firms by reviewing the contractor's submittal of Standard Forms (SF) 294 and (SF) 295.	If less than 80% is reached during an applicable period of performance, the contractor shall outline the steps that will be taken to meet the annual goals outlined in their plan, or provide justification as to the rationale for the lack of meeting the subcontracting plan goals. Performance that does not meet the stated goals without sufficient justification will be reported as an **Unsatisfactory** rating under the category of **BUSINESS RELATIONS**, and **MEETING SDB SUBCONTRACTING REQUIREMENTS** in the NIH Performance Evaluation System.

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 2-29

☐ Other ☒ Amendment Number: 000001

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-10-060	11/30/2010 To 07/31/2013	Field Demo of Water Tech
	Base Option Period Number 2	

Contractor: COMPUTER SCIENCES CORPORATION

Specify Section and paragraph of Contract SOW: 2.2

Purpose:
- ☐ Work Assignment
- ☒ Work Assignment Amendment
- ☐ Work Plan Approval
- ☐ Work Assignment Close-Out
- ☐ Incremental Funding

Period of Performance: From 08/01/2012 To 07/31/2013

Comments:
This action allocates funding in an amount to fully fund the work assignment at an amount of $204,112. Total hours are at 1866 direct labor hours and approved technical LOE of 1807 LOE.

☐ Superfund — Accounting and Appropriations Data — ☒ Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
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5										

Authorized Work Assignment Ceiling

	Cost/Fee:	LOE:
Contract Period: 11/30/2010 To 07/31/2013		1,866
This Action:		-59
Total:		1,807

Work Plan / Cost Estimate Approvals

	Cost/Fee:	LOE:
Contractor WP Dated:		
Cumulative Approved:		

Work Assignment Manager Name: Robert Janke (Signature) (Date)	Branch/Mail Code: Phone Number: 513-569-7160 FAX Number:
Project Officer Name: Nancy Muzzy (Signature) (Date)	Branch/Mail Code: Phone Number: 513-569-7864 FAX Number:
Other Agency Official Name: (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:
Contracting Official Name: Cathy Basu (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2042 FAX Number: